March 2002

Yemen

Yemen is important to world energy markets because of its oil and natural gas resources as well as its strategic location at the Bab el-Mandab strait linking the Red Sea and the Gulf of Aden, one of the world's most active shipping lanes.

Note: The information contained in this report is the best available as of March 2002 and can change.

GENERAL BACKGROUND

Yemen's government continues to implement an economic reform program which it agreed to in 1995 as a condition for lending from the International Monetary Fund (IMF). The program includes banking reform, privatization of state-run industries, major infrastructure investment, and reduction or elimination of government subsidies, including wheat, flour, gasoline, and electricity. Yemen's economy has been negatively affected in the last year by declining prices for its oil exports, its largest source of hard-currency revenues. Remittances from Yemenis working in the wealthier countries of the Persian Gulf also have declined. Concerns about security and project risk in Yemen have heightened in recent months as a result of the terrorist attacks of September 11, 2001. Yemen's real gross domestic product grew 4.6% in 2001, and it is projected to grow 3.6% in 2002.

Yemen's current economic reforms follow a period of political instability and civil war in the early 1990s. In May 1990, the former independent states of North and South Yemen reached a unification agreement, creating a united Republic of Yemen. However, political disputes between President Ali Abdallah Saleh and Vice President Ali Salim al-Baidh led to armed clashes between northern and southern forces in April 1994, plunging the four-year-old country into a full-scale civil war by May 1994. The war ended in July 1994 after the fall of Aden, the former capital of South Yemen and the stronghold for forces loyal to Vice President al-Baidh. Current instability mainly centers on periodic kidnappings of foreigners, including oil workers, usually by Yemeni tribesmen. Besides kidnappings, there have been periodic attacks on an oil pipeline in the Marib region of eastern Yemen, which is operated by U.S.-based Hunt Oil.

Under terms of its agreements with the IMF and World Bank, Yemen is required to initiate a privatization program. The government has said that it will encourage private investment in the agriculture, fisheries, and oil, and sell off its stake in companies throughout the Yemeni economy. Some companies will be offered for tender or auction, while others will be sold by private subscription. The government also stresses that it is seeking both foreign and local investors. State-owned businesses cited as candidates for privatization include farm and agricultural cooperatives, construction companies, power stations, public housing facilities, refineries, the state's petroleum retail network, shipping companies, and the state telecommunications company. Progress toward privatization, however, has been slow. The Yemeni government decided in June 2001 not to fully privatize the Aden Refinery, but rather to divest only part of its ownership stake.

Yemen and Saudi Arabia have resolved their longstanding border dispute. In a treaty signed in June 2000, the two governments agreed on the delineation of sections of their common border which had been in dispute since the 1930s. The deal is expected to open up opportunities for increased Saudi trade and investment in Yemen, and has made possible the award of oil and gas exploration rights for areas in Yemen adjacent to previously disputed areas of the border.

OIL

Yemen's oil output, which averaged 452,521 barrels per day (bbl/d) in 2001, provides the country's main source of hard currency revenue. The country contains proven oil reserves of 4 billion barrels. Reserves are concentrated in five areas: Marib-Jawf Block 18 (490 million barrels) in the north, East Shabwa Block 10A (180 million barrels) and Masila Block 14 (500+ million barrels) in the south, and the Jannah Block 5 (345 million barrels) and Iyad Block 4 (135 million barrels) in central Yemen. The Masila block is the country's most productive oil field at around 230,000 bbl/d, followed by Marib-Jawf at 160,000 bbl/d. Smaller fields include Jannah, Haliwah, East Shabwa, and Iyad.

Nexen, which owns 52% of the Masila block, and Hunt Oil (operator of Marib) are the largest producers, accounting for around 230,000 bbl/d and 160,000 bbl/d, respectively. TotalFinaElf produces around 30,000 bbl/d from its East Shabwa concession. Nimir Petroleum of Saudi Arabia left Yemen in early 2001, due to unsuccessful efforts to expand production, and relinquished drilling rights in Blocks 16, 29, and 33, as well as a minor producing field in Block 4.

Oil exploration activity in Yemen has accelerated since 1997, after a downturn during the mid-1990s due to Yemen's brief civil war, though current security concerns may again slow exploration activity somewhat. In April 1998, Nexen entered an agreement with Kerr-McGee Yemen, acquiring interests in two exploration blocks near the Nexen-operated Masila Block. Each company obtained a 47.5% interest in Block 50 and a 43.75% interest in Block 51, with the Yemen Ministry of Oil holding the balance for both blocks. Block 51 is adjacent to the Masila Block and consists of two million acres. Block 50 covers more than 8 million acres and is located northwest of the Masila Block.

Norwegian independent DNO began production in November 2000 at the Tasour field in Block 32, which was producing over 11,000 bbl/d by late 2001. Dove Energy of Britain began production of 13,500 bbl/d in January 2002 from two wells in Hadramawt province. Russia's Rosneft and Avirex of the United Arab Emirates were granted drilling rights in the eastern al-Mahrah province in February 2002. Seismic survey work is to begin in 2002, and nine exploration wells are to be drilled by 2003.

Yemen's border demarcation treaty with Saudi Arabia has opened up new areas to exploration. Four new blocks have been demarcated along the border, and several companies have expressed interest in exploring them. Nexen signed a memorandum of understanding with Yemen in January 2001 covering Block 59, located adjacent to the Saudi border. Nexen holds a 60% interest, with the other 40% held by Occidental Petroleum (of which Nexen is no longer a subsidiary). Austria's OMV, along with Cepsa of Spain and PanCanadian, concluded an exploration and production contract with the Yemeni government for Block 60 in December 2001. The area is near the Saudi border, and was previously unexplored due to the border dispute.

Refining

Yemen currently has a crude refining capacity of 130,000 bbl/d from two aging refineries. The refinery in Aden, operated by Aden Refinery Company (ARC), has a capacity of 120,000 bbl/d, while capacity at the Marib refinery, operated by Yemen Hunt Oil Company, is 10,000 bbl/d. The Aden refinery, which had a design capacity of 170,000 bbl/d, sustained significant damage during the country's 1994 civil war, but was later partially rebuilt. The Yemeni government has backed away from plans to privatize the Aden refinery, but may offer a partial stake to private investors at some point.

Yemen signed a contract in November 2001 with the United Company for Petroleum Investment (UCPI) for a new refinery in Hadramawt with a capacity of around 100,000 bbl/d. UCPI represents a consortium investors from Saudi Arabia and the United Arab Emirates. The $895-million project is to be built in two phases, and would eliminate Yemen's need for imports of refined petroleum products, as well as providing refined products for export.

NATURAL GAS

With natural gas reserves of 16.9 trillion cubic feet (Tcf), Yemen has considerable potential as a natural gas producer and exporter. The bulk of Yemen's gas reserves are concentrated in the Marib-Jawf fields, operated by the Yemen Exploration and Production Company (YEPC). There is currently no production of natural gas in Yemen, and the gas which Hunt Oil extracts as a by-product of oil production at these fields is reinjected.

In early 1996, France's TotalFinaElf and Yemen's General Gas Corporation set up Yemen Liquefied Natural Gas Company (Yemen LNG) to operate a $5-billion liquefied natural gas (LNG) project. The venture, Yemen's largest single energy project, is to develop natural gas from the Marib-Jawf and Jannah fields, and transport it via pipeline to a natural gas processing plant and export terminal in Bal Haf on the coast of southern Yemen. The Yemeni LNG plant is to have an export capacity of 0.26 Tcf per year. The consortium making up Yemen LNG consists of TotalFinaElf, Yemen Gas, Hunt Oil, ExxonMobil, and Yukong.

Startup of Yemen LNG was originally scheduled for 2000 or 2001, but weak demand for LNG due to the Asian economic crisis delayed the start of the project. The project also sustained two major setbacks in 2001. TotalFinaElf suspended its plans for an LNG import terminal at Trombay, India in late 2001, which would likely have been the anchor customer for Yemen LNG. Yemen LNG also has failed to make the "short list" for negotiations to supply China's planned Guangdong LNG import terminal.

ELECTRICITY

Yemen generated 2.4 billion kilowatthours of electricity in 1999 on installed capacity of 810 megawatts (MW), all oil-fired. Yemen's two largest power plants are the 165-MW power station at Ras Kanatib, near Hodeidah, and the 160-MW Mukha station. Yemen's generating capacity is inadequate for the country's needs, and a rolling blackout schedule is maintained in many cities. Government plans for the power sector call for privatizing all generators having a capacity of less than 5 MW, and also for selling generators of 5 MW-20 MW through public offerings.

In recent years, Yemen has started on some modest projects to expand and improve its power sector. On July 8, 1997, Yemen's Public Electricity Corporation (PEC) completed work on linking the southern and northern electricity grids. The grid linkage was funded by the Kuwait-based Arab Fund for Economic & Social Development, which provided $54 million of the $64 million required for the project. Yemen undertook a World Bank-funded upgrade of the Dhaban power plant to 50-MW total capacity.

The Mukalla power project involved the construction of a 40-MW diesel-fired plant, six substations, and the laying of 62 miles of transmission lines. Wartsila NSD Corporation, the Dutch branch of Finland's Wartsila Diesel, started work on the plant in mid-1997 and construction was completed in 1998. Wartsila also completed the Aden power project, which involves building a 30-MW plant to serve the city's port. The new plant is part of the redevelopment of Aden, which was heavily damaged in the 1994 civil war. The company won the construction contract in late 1997 from Yemen Investment and Development International, the consortium leading the redevelopment of Aden port. Adair International was awarded a contract for a 21-MW plant near the port in January 2001.

Yemen continues to face serious power shortages, and has announced plans to reform the country's power sector, and to double power generating capacity. Yemen also has said that it plans to invite offers on the country's first private power station. Current plans call for the construction of a 400-MW privately-owned gas-fired plant near the Marib oil and gas field.

Sources for this report include: Agence France Presse; CIA World Factbook; Dow Jones News Wire service; Economist Intelligence Unit ViewsWire; Hart's Middle East Oil and Gas; Oil and Gas Journal; Oil Daily; Petroleum Economist; Petroleum Intelligence Weekly; U.S. Energy Information Administration; World Gas Intelligence.

COUNTRY OVERVIEW

Head of Government: President Ali Abdallah Saleh (reelected in September 1999)
Independence: May 22, 1990 (reunification)
Population (2001E): 18.1 million
Location/Size: Southwest corner of the Arabian Peninsula/527,790 sq. kilometers (203,730 sq. miles); approximately the size of Wyoming and Colorado
Major Cities: Sanaa (capital), Aden, Al Hudaydah, Taizz
Language: Arabic
Defense (8/98): Army (37,000), Navy (1,500), Air Force (3,500), Paramilitary Forces (50,000)

ECONOMIC OVERVIEW

Currency: Yemeni Rial (YRI) US$1 = YR169 (as of December 2001)
Gross Domestic Product (GDP) - market exchange rate: $8.6 billion
Real GDP Growth Rate (2001E): 4.6% **(2002F):** 3.6%
Consumer Price Inflation (2001E): 9.0% **(2002F):** 8.0%
Major Trading Partners: China, Japan, Saudi Arabia, Singapore, South Korea, United Arab Emirates, United States
Major Export Products: Crude oil, cotton, coffee, hides, vegetables, dried and salted fish
Major Import Products: textiles and other manufactured consumer goods, petroleum products,

sugar, grain, flour, other foodstuffs, cement, machinery, chemicals

ENERGY OVERVIEW

Minister of Oil and Mineral Resources: Mohammed al-Khadim al-Wajih
Proven Oil Reserves (1/1/02): 4 billion barrels
Oil Production (2001E): 452,521 barrels per day (bbl/d)
Oil Consumption (2001E): 74,000 bbl/d
Natural Gas Production/Consumption: None.
Net Oil Exports (2000E): 378,521 bbl/d
Crude Oil Refining Capacity (1/1/02): 130,000 bbl/d
Natural Gas Reserves (1/1/02): 16.9 trillion cubic feet (Tcf)
Electric Generating Capacity (1/1/99): 810 megawatts (100% thermal)
Electricity Generation (1999E): 2.4 billion kilowatthours

ENVIRONMENTAL OVERVIEW

Chairman of the National Council for Environment Protection: Mohsin Al-Hamadani
Total Energy Consumption (1999E): 0.14 quadrillion Btu* (0.04% of world total energy consumption)
Energy-Related Carbon Emissions (1999E): 2.5 million metric tons of carbon (0.04% of world carbon emissions)
Per Capita Energy Consumption (1999E): 9.4 million Btu (vs. U.S. value of 355.9 million Btu)
Per Capita Carbon Emissions (1999E): 0.2 metric tons of carbon (vs. U.S. value of 5.6 metric tons of carbon)
Energy Intensity (1999E): 10,626 Btu/ $1990 (vs U.S. value of 12,638 Btu/ $1990)**
Carbon Intensity (1999E): 0.19 metric tons of carbon/thousand $1990 (vs U.S. value of 0.20 metric tons/thousand $1990)**
Sectoral Share of Energy Consumption (1998E): Transportation (69.5%), Residential (19.3%), Industrial (11.2%)
Sectoral Share of Carbon Emissions (1998E): Transportation (69.5%), Industrial (10.0%), Residential (20.5%)
Fuel Share of Energy Consumption (1999E): Oil (100.0%)
Fuel Share of Carbon Emissions (1999E): Oil (100.0%)
Renewable Energy Consumption (1998E): 1.5 trillion Btu*
Number of People per Motor Vehicle (1998): 31.5 (vs. U.S. value of 1.3)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified February 21st, 1996). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Very limited natural fresh water resources; inadequate supplies of potable water; overgrazing; soil erosion; desertification
Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Desertification, Environmental Modification, Hazardous Wastes, Law of the Sea, Nuclear Test Ban and Ozone Layer Protection

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, and wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP based on EIA International Energy Annual 1999

OIL and GAS INDUSTRIES

Organizations: Yemen Petroleum Company (YPC) - production and refining; General Corporation for Oil and Mineral Resources (GCOMR) - investment and holding company; Yemen Refining Company (YRC) - refining; General Department of Crude Oil Marketing (GDCOM) - handles

government shares of exports; Yemen Exploration and Production Company (YEPC) - contracts
Major Oil Fields: Alif, Asaad Al-Kamil, Camaal, Azal
Foreign Company Involvement: Cepsa, Dove Energy, DNO,Nexen, Hunt Oil, Kerr-McGee, OMV, PanCanadian, Rosneft, TotalFinaElf, TransGlobe Energy
Major Refineries (Capacity): Aden (120,000 bbl/d), Marib (10,000 bbl/d)
Major Ports: Aden, Hisn an Nushaymah, Al Khalf, Mocha, Nishtun, Ra's Isa, Ra's Kathib, Salif
Major Pipelines: Marib-Ra's Isa Pipeline (pipeline between the Marib fields and the deep sea port of Ra's Isa on the Red Sea), Shabwa-Rudhum Pipeline (pipeline linking the Shabwa fields to the Rudhum terminal on the Gulf of Aden at Hisn an Nushaymah)

Links

For more information from EIA on Yemen, please see:
EIA - Country Information on Yemen

Links to other U.S. government sites:
CIA World Factbook - Yemen
U.S. Department of Energy - Office of Fossil Energy - Yemen
U.S. State Department Consular Information Sheet - Yemen
U.S. State Department Country Commercial Guide - Yemen
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